ELSEVIER

Volume 324, Numbers 1–2, 1 July 1998

thin solid films

Contents

Synthesis and Characterization

Study of pillar microstructure formation with anodic oxides
A.I. Vorobyova and E.A. Outkina 1

Optical effects in carbon-ion irradiated diamond
K.L. Bhatia, S. Fabian, S. Kalbitzer, Ch. Klatt, W. Krätschmer, R. Stoll and J.F.P. Sellschop 11

Magnetron sputtering of aluminium using oxygen or nitrogen as reactive gas
J. Schulte and G. Sobe 19

Formation reactions of PbTe thin film deposition by close-spaced vapor transport (CSVT) technique
S. Kertoatmodjo, Nugraha and F. Guastavino 25

Phase control of Mo_xN films via chemical vapor deposition
S.L. Roberson, D. Finello and R.F. Davis 30

A study of the CuO phase formation during thin film deposition by molecular beam epitaxy
K.P. Muthe, J.C. Vyas, S.N. Narang, D.K. Aswal, S.K. Gupta, D. Bhattacharya, R. Pinto, G.P. Kothiyal and S.C. Sabharwal . 37

Physical and structural characterization of tungsten oxide thin films for NO gas detection
D. Manno, A. Serra, M. Di Giulio, G. Micocci and A. Tepore 44

Deposition of multiphase molybdate thin films by reactive sputtering
J.Y. Zou and G.L. Schrader 52

In situ X-ray investigations of thin film growth
A.M. Baranov and I.F. Mikhailov 63

Dark conductivity in the x and alpha polymorphs of lithium phthalocyanine
M. Brinkmann, C. Chaumont and J.-J. André 68

Effect of Cu-doping on the morphology of ZnTe films electrodeposited from nonaqueous bath
N.B. Chaure, J.P. Nair, R. Jayakrishnan, V. Ganesan and R.K. Pandey 78

Role of energetic flux in low temperature Si epitaxy on dihydride-terminated Si (001)
M.E. Taylor, H.A. Atwater and M.V.R. Murty 85

Pure and doped CeO_2 thin films prepared by MOCVD process
M. Pan, G.Y. Meng, H.W. Xin, C.S. Chen, D.K. Peng and Y.S. Lin 89

Low temperature synthesis of $PbTiO_3$ thin films by MOCVD without carrier gas
C. Byun, J.W. Jang, Y.-J. Cho, K.J. Lee and B.-W. Lee 94

The effects of in-situ pretreatments of the substrate surface on the properties of PLZT films fabricated by a multi-target sputtering method
H.-H. Kim, S.-T. Kim and W.-J. Lee 101

Biaxial strain in $Al_xGa_{1-x}N/GaN$ layers deposited on 6H-SiC
W.G. Perry, M.B. Bremser, T. Zheleva, K.J. Linthicum and R.F. Davis 107

$CuInSe_2$ thin films grown by MOCVD: characterization, first devices
M.C. Artaud, F. Ouchen, L. Martin and S. Duchemin 115

Supersonic jet epitaxy of single crystalline cubic SiC thin films on Si substrates from *t*-Butyldimethylsilane
J.-H. Boo, S.A. Ustin and W. Ho 124

Structural characterization of thin epitaxial Fe films
R. Moons, S. Blässer, J. Dekoster, A. Vantomme, J. De Wachter and G. Langouche 129

Elsevier Science S.A.

Structural and optical properties of $Sr_{1-x}Ba_xTiO_3$ thin films prepared by rf sputtering
P. Pasierb, S. Komornicki and M. Radecka 134

Behavior of radio frequency PACVD bilayers (SiC/TiN) on steel
M. Andrieux, M. Ducarroir and E. Beauprez 141

Tungsten doping into vanadium dioxide thermochromic films by high-energy ion implantation and thermal annealing
P. Jin, S. Nakao and S. Tanemura 151

Infrared transmission spectra of thin GaS films
N.B. Mustafaev and N.B. Mustafaev 159

Microhardness evaluation of Cu–Ni multilayered films by X-ray diffraction line profile analysis
F.L. Shan, Z.M. Gao and Y.M. Wang 162

Surfaces, Interfaces and Colloidal Behaviour

Interdiffusion studies of Cr_2O_3 layers on ceramic Al_2O_3 substrates
U. Rothhaar and H. Oechsner 165

High resolution chemical mapping in the energy-filtering TEM: application to interface layers in ceramics
L. Ponsonnet, B. Vacher and J.M. Martin 170

Complementary STM and TEM investigations of thin Pd-films
H. Weinforth, H. Mühlbauer, Ch. Müller and G. Dumpich 176

Metallurgical, Protective and Hard Layers

Protective AlCrN film for organic photoconductors
X.S. Miao, Y.C. Chan and E.Y.B. Pun 180

Mechanics and Nanomechanics of Thin Layers

Deformation behaviour associated with the stress-induced martensitic transformation in Ti–Ni thin films and their thermodynamical modelling
C. Lexcellent, S. Moyne, A. Ishida and S. Miyazaki 184

The tribological behavior of type II textured MX_2 (M = Mo, W; X = S, Se) films
S.R. Cohen, L. Rapoport, E.A. Ponomarev, H. Cohen, T. Tsirlina, R. Tenne and C. Lévy-Clément 190

Electronics, Optics and Opto-electronics

Ab initio study of thin metallic and ceramic films
D. Rafaja, V. Valvoda, T. Šikola and J. Spousta 198

Steady-state photovoltaic and electroreflective spectra in Al/vanadyl phthalocyanine (VOPc, in phase II)/indium–tin–oxide (ITO) sandwich cell
Y.-l. Pan, X.-d. Liao, Y.-j. Wu, L.-b. Chen, Y.-y. Zhao, Y.-h. Shen, F.-m. Li, S.-y. Shen and D.-y. Huang 209

The effects of deposition rate and substrate temperature of ITO thin films on electrical and optical properties
A. Salehi 214

Investigation of GaAs-based heterostructure–emitter bipolar transistors (HEBTs)
W.-C. Liu, J.-H. Tsai, S.-Y. Cheng, W.-L. Chang, H.-J. Pan and Y.-H. Shie 219

Magnetics and Magneto-optics

The role of interface anisotropy in spin wave resonance spectra of magnetic multilayers exchange coupled through nonmagnetic f.c.c. spacer
F.L. Castillo Alvarado, J.H. Rutkowski, A. Urbaniak-Kucharczyk and L. Wojtczak 225

Superconductivity

Noise, bolometric performance and aging of thin high T_c superconducting films on silicon membranes
H. Neff, I.A. Khrebtov, A.D. Tkachenko, E. Steinbeiß, W. Michalke, O.K. Semchinova, T. Heidenblut and J. Laukemper . . 230

Langmuir–Blodgett, Biological and Related Films

Organization of polymer-capped platinum colloidal particles at the air–water interface
M. Sastry, V. Patil, K.S. Mayya, D.V. Paranjape, P. Singh and S.R. Sainkar 239

Europium and terbium carboxylate interactions in monolayers and Langmuir–Blodgett films
R.F. Silva, M.E.D. Zaniquelli, O.A. Serra, I.L. Torriani and S.G.C. de Castro 245

Ni oxide thin films prepared by means of Langmuir–Blodgett multilayers
M. Schurr, A. Brugger, Ch. Schoppmann and H. Voit 253

Molecular packing of HSA, IgG, and fibrinogen adsorbed on silicon by AFM imaging
J.L. Ortega-Vinuesa, P. Tengvall and I. Lundström 257

Thin Film Devices, Sensors and Actuators

The gas response behavior of spin-coated phthalocyanine films to NO_2
X. Li, S. Shen, Q. Zhou, H. Xu, D. Jiang and A. Lu 274

Gas sensing properties of asymmetrically substituted phthalocyanines bearing one crown ether ring
X. Li, H. Xu, Q. Zhou, D. Jiang, L. Zhang and A. Lu 277

Image edge detecting by using the bacteriorhodopsin-based artificial ganglion cell receptive field
J. Yang and G. Wang 281

The response mechanism of aminotri-*tert*-butylphthalocyanine thin films to nitrogen dioxide
W. Hu, Y. Liu, S. Liu and D. Zhu 285

Condensed Matter Film Behaviour

Water-induced degradation of chromium fluoride films
E. Kim, S. Hong, J.D. Gorman, S. Lim, S.-Y. Moon, D.-W. Kim and K. No 292

Substrate temperature effect on the optical and electrical properties of antimony trisulfide thin films
I.K. El Zawawi, A. Abdel-Moez, F.S. Terra and M. Mounir 300

Investigation of inhomogeneity of $BaTiO_3$ thin films using transmittance spectra measurements
M. Nenkov and T. Pencheva 305

Author Index of Volume 324 311

Subject Index of Volume 324 312

For more information on *Thin Solid Film* please visit our website which is accessible via the Elsevier Surfaces & Interfaces HomePage at http://www.elsevier.nl/locate/surfaces

The publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. A leaflet describing our requirements is available from the publisher upon request.